KEMI-TORNIO UNIVERSITY OF APPLIED SCIENCES
HEALTH CARE AND SOCIAL SERVICES

EXERCISE AS A BOOST FOR THE HEALTH PROMOTION OF THE ELDERLY

Questionnaire survey in three elderly homes in China, Finland and Kenya

Bachelor´s Thesis

Arusei Sally & He Wei & Kipkeu Robert
Degree Programme of Nursing

Kemi 2013

ABSTRACT

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Questionnaire survey in three elderly homes in China, Finland and Kenya

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Keywords: Health, Nurses' role, Elderly, Exercise as a boost.

Old age is inevitable for everyone in the society. The world elderly population has increased tremendously and special measures are taken to secure their well being. One of the vital steps towards securing elderly health is through participation in exercise.

The purpose of this quantitative research was to explore ways in which exercise functions as a boost to elderly health in multicultural environment. The aims are to get an overall view of elderly awareness and experiences about exercise and to find out the role played by nurses in provision of exercise to elderly. Research method of the thesis was quantitative, whereby questionnaires as data collection method were distributed to the elderly in three countries: China (Ri Yuexing nursing home), Kenya (Eldoret and Cherangani nursing home), and Finland (Purola elderly home). Manual way, Microsoft Excel and SPSS programme were used as a descriptive statistics technique to analyze the data and table and graphs were made to reflect the results.

The research questions were: What are the elderly experiences about exercise? How do elderly implement exercise? How do the elderly experience the effects of exercise on their health? What is nurses' role in promotion of exercise among elderly?

The results of this research showed most elderly are aware of the importance of exercises. Age is not a limiting factor to exercise since there are different forms of exercises as adopted by the elderly. It also showed the active role played by nurses and families in promoting exercises to the elderly. Through exercise, the quality of elderly life is improved since exercise helps to keep them strong, active and healthy.

CONTENTS

1 INTRODUCTION

As it has been noted that the majority of the population is aging, there is a great need for health promotion of elderly in order to enable them to carry out day to day tasks independently. Exercise as the most common and effective way of boosting health has been advocated among elderly for years. However, elderly people who have multi-illnesses have restricted activities due to their general condition. By age 75, about one in three men and one in two women engaged in no physical activity (Harber 2007, 139).

Older adults with higher exercise fulfillment demonstrated better mental and psychological health, regardless of their physical activity levels. Older adults with low-exercise fulfillment could potentially improve their physical abilities; however, their mental and psychological health significantly differed from that of older adults with medium or high-exercise fulfillment after exercise intervention. These findings provide preliminary evidence, which indicates that exercise can provide sufficient fulfillment and contribute to the promotion and improvement of health in older adults. Moreover, performing adequate tests on exercise fulfillment may aid in assessing the effects of intervention programs in healthcare system. (Sakurai & Fujiwara & Fukaya & Saito & Yasunaga & Suzuki & Nonaka & Kim & Kim & Tanaka & Nishikawa & Uchida & Shinkai & Watanabe 2012, 743-54.)

According to the authors of this thesis, exercise has been underestimated or even ignored in real implementation which brings about patients' physical deterioration. The authors of this thesis have encountered various examples during previous practical experiences. In health care it has been assumed that health is basically maintained through nutrition and drugs. For example, sleeping problem is more common with the elderly and it surely affects individuals and their families. Often elderly patients use a lot of drugs for this problem including sleeping pill many of which have side effects. The results of Fábio' s present study indicate that, elderly

subjects submitted to chronic moderate training presenting improved sleep quality. (Fábio & Gustavo & Ronaldo & Lila & Damaso & Nascimento & Valter & Boscolo & Grassmann & Santana & Esteves & Tufik & Mello 2011, 113-118.)

The purpose of this research is to explore ways in which exercise functions as a boost to elderly health promotion. The increasing number of people living longer has led to international interest in the enhancement of quality of life and health-related quality of life in older age (Bowling 2005, 1).

The aim of this research was to get an overall view of the elderly awareness and experiences about exercise in the multicultural background. The aim was also to find out the role of nurses in provision of exercise. This research was carried out to map the ways of implementing exercise for the aged population. The authors wanted to get more evidence that exercise promotes elderly health in various ways ranging from physical, psychological, cognitive, and sociological and obtain more positive influences of exercise on elderly people so that they really realize its importance as method of health promotion. It also includes the suitable ways and guidance that nurses can utilize to promote elderly health by implementing exercise in appropriate ways.

The theoretical part of this research entails aging, types and effects of exercise to elderly, health issues of elderly and nurses' role in promotion of exercise on elderly health. The empirical part was carried out in Finland (Purola elderly home), Kenya (Eldoret and Cherangani nursing home) and China (Ri Yuexing elderly home). This research is meant to be utilized by other researchers, student nurses, paramedics, family members of elderly and any potential readers.

2 AGED/ AGING

Aging is viewed to have been started during conception and continues throughout

lifespan and the process ends with the death. Aging is categorized into stages, for example, birth to one year, childhood, adolescence, adulthood and elderly whereby elderly situation is categorized into three, i.e. elderly 65 to 74 years, older elderly 74 to 84 years and very old 85 years and above. Aging is defined to have lived or existed for long time between 65 years and death. (Taylor 2008, 2.)

The trend of becoming aged had been studies and concluded that, the number of the elderly has been projected to rise steadily in the world (Table 1). Africa, for instance, has the lowest rate of elderly population followed by Asia and Europe which will have the greatest rate by the year 2050. (Ferraro & Wilmoth 2006, 59.)

Table1. Percentage of population aged 65 and older

	2000	2025	2050
World total	6.9	10.7	16.6
Developed countries	14.3	21.0	26.2
Developing countries	5.1	8.7	15.1
Regions			
Europe	14.7	21.2	28.7
North America	9.9	14.9	19.3
South America	5.8	10.8	19.7
Oceania	10.1	15.1	20.1
Asia	5.9	10.1	17.7
Africa	3.2	4.3	6.9

Source: U.S. Census Bureau (2004).

2.1 Physiological Changes Brought by Aging

Aging is a process of inherent change that has separate or joint effects on the individual identity. Aging brings about physiological, psychological and other kinds of changes to human body. It is important to note that although some of the changes brought by aging can’t be controlled but some can be controlled and control seems to be feasible in many of the body organs. Exercise can help us maintain this kind of control to some extent. For many individuals, aging becomes painful with each newly

discovered joint ache or mobility restriction. It is possible, however, for the older adult to find ways to compensate for the debilitating losses related with age through active participation in various forms of exercise. (Whitbourne & Krauss 2000, 87.)

After adulthood, there is muscle mass loss as long as strength loss which brings about restricted daily activities among elderly. Even if these activities do not require strength or exertion such as read a book and turn the pages, button up the clothes, watch television and press the remote control button, they very often depend on muscular coordination. Once the elderly realize they are no long able to carry out these small items of activity due to the loss of muscular strength and coordination, individual' s sense of competence and identity disappear which can result to negative psychological changes. The aging of the cardiovascular and respiratory systems has the greatest relevance to the component of physical identity relevant to mortality. Although early age-related changes in these systems may proceed without being noticed by the individual, when the threshold is crossed and age effects are observed, they can be extremely frightening. (Whitbourne & Krauss 2000, 87-100.)

Aging happens during the individual's life span. It is not associated with diseases but with growth maturation and discovery. Most changes experienced are not necessarily harmful but it's associated with hair turning grey and thinning out. The skin will lose its elasticity, body shape will change, and wrinkles will appear. Old people may have loss of muscle mass, reduced sight and slowing down function of normal body function. (Taylor & Johnson 2008, 18; 20.)

2.2 Psychological and Sociological Aging.

For an individual elderly to achieve successful aging, psychological resources namely efficacy and resilience must be utilized. The increasing use of preventive care, better medical management of mobility and changing lifestyles in older people may have beneficial effects on health and longevity. Psychological care plays useful part in

coping with situations e.g. when facing with problems and how to overcome them. It also boost self-esteem, self confidence and self worthy. (Bowling 2011, 2.)

In Sociological aging, elders who have mental and physical activities of daily living throughout life tend to age in a healthier way. In addition further study done shows that people who age successfully carry forward positive health habits, preferences, lifestyles and relationships. A person is sociologically old when he is regarded and treated by his society. The problems of social adjustments of the role and the status accorded to them by the society, the social provisions of their continued prestige and security, and the opportunities afforded them to achieve their own ends by their own initiative. In every society, aging is accompanied by the changes in the active roles played by the aged functional categories of which they belong. There are two adjustments controlling individual in relation to its social roles, for example one is normally required by the social category in which the individual belongs and also resulting from shift of role from one social category to another which usually aggravates the problem of adjustment. (Jones & Rose 2005, 17.)

2.3 Diseases Related to Aging

People who age abnormally, function at levels well below those of normal aging. Abnormal aging is accompanied by diseases for example Alzheimer, psychosis, multiple infarct dementia and clinical depression. This can cause the degeneration of the brain cells bringing about abnormal aging because the normal process of aging is interfered with leading to early aging. (Klausler & Krupsler & Krupsaw 2007, 3.)

According to the study done in the United States of America (1987-1990) on the causes of death among persons 65 years and above, the results were; Cardiac diseases were highly killer disease followed by malignant neoplasms, cerebral vascular disease, Pneumonia and influenza, COPD. (Birchenall & Streight 1993, 5.)

Chinese elderly has experienced a rapid shift from communicable to chronic diseases that account to 80% of all elderly death that occur. The disease includes; cancer, chronic respiratory illness and diabetes. (Chen & Powell 2012, 176.)

Elderly in Finland have been greatly affected by the two common diseases i.e. cardiovascular diseases and cancer. (Ritsatakis & Makara 2009, 39.)

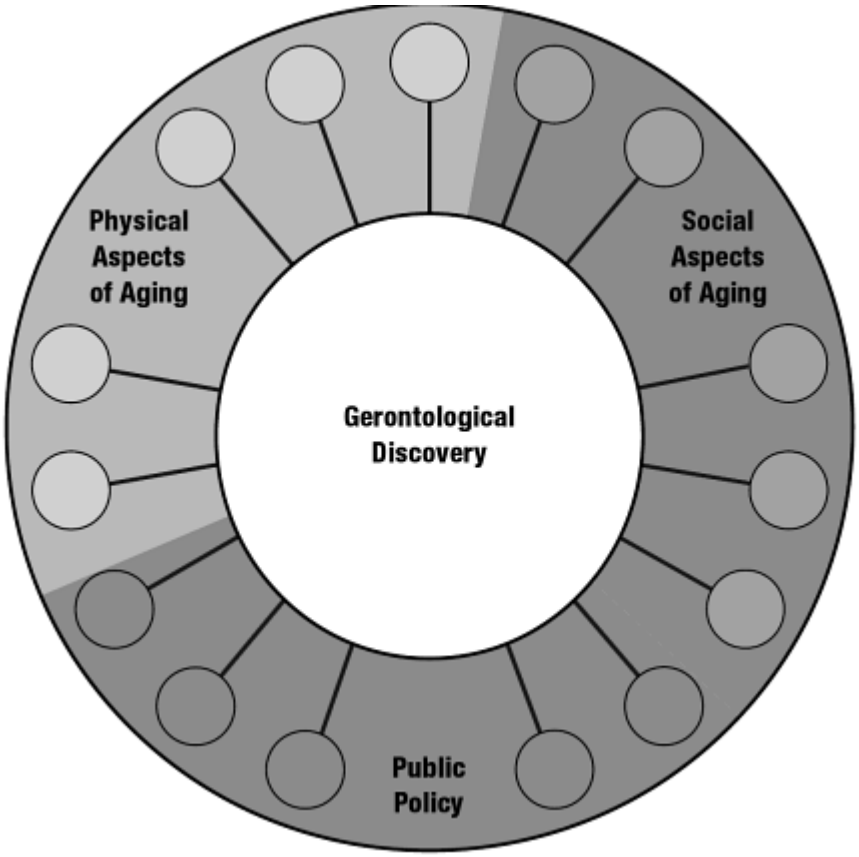
In Kenya, like most developing countries, COPD is the most killer disease for the elderly. A study on health status done in Kenyan (Nairobi) showed that 68% of the elderly suffer from respiratory conditions for example; asthma, respiratory allergies, sleep apnea syndrome, lung diseases, cancer and pulmonary hypertension. (Pranitha, 2013, 77.)

2.4 Research of Aging

There are some important aspects when dealing with elderly, it involves terms such as gerontology and geriatrics. Geriatrics for instance means management or prevention of diseases and disabilities. It also involves with offering medicine and general nursing aspect to the elderly. While gerontology is the study of the physical, psychological and social issues related to elderly.

Chart1 below shows the discovery of gerontology; Physical aspects of aging tend to ask questions on why do we age? How does aging affect body and mind? Can the effect of aging be mitigated? The social aspect of aging tries to ask How does social context influence aging and life course development? Public policy, what are the needs and interests of an older population? (Ferraro & Wilmoth 2006, 4; 6.)

Chart 1.The Foundation of Gerontological Discovery



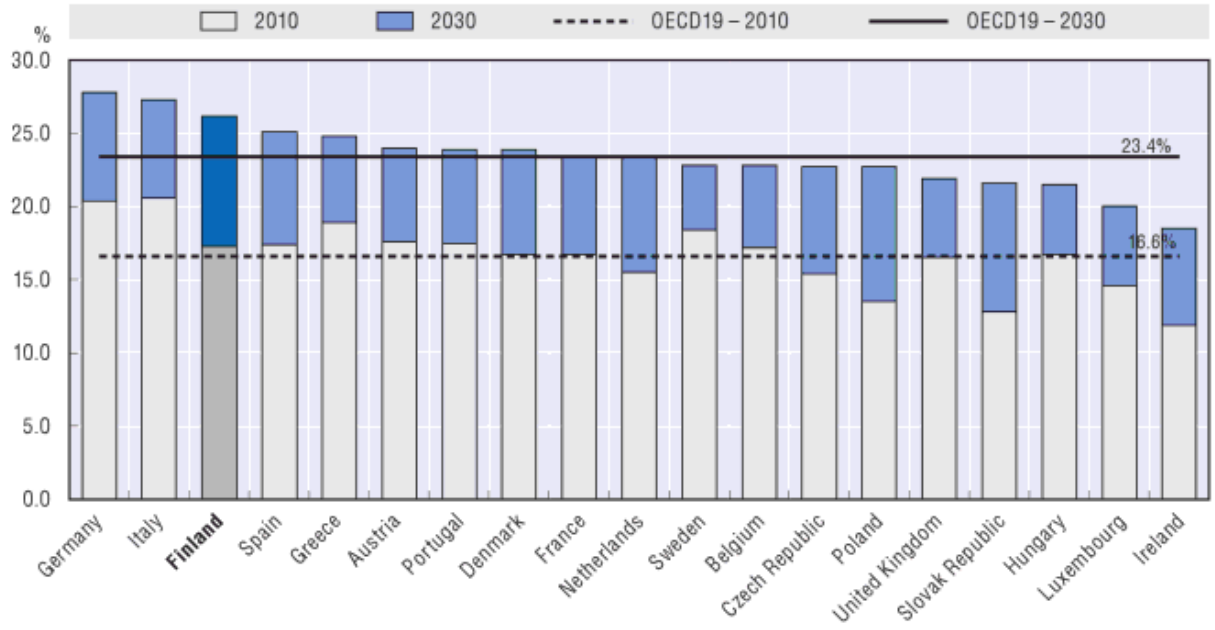
2.5 Aging in Three Countries in 21st Century

Finland is a country situated in northern Europe bordering Sweden, Norway, Russia and Estonia whose capital city is Helsinki. It has a population of approximately 5.22 million (2004). It's the seventh largest country in Europe with approximate area of 338,144 kilometers square. It got its independence from Russia in 6th December 1917. Most Finns are Christians but religion has no impact on most of them. Finland has two official languages, Finish and Swedish. (Walden Publishing Ltd Editor 2006, 120.)

The age structure of Finland is expected to shift dramatically over the next 25 years and according to 2004 projection by statistics, the total population is projected to begin edging lower by the year 2029 and the number of people aged 65 years and

above is projected to rise to 57% by 2020 and 80% by 2050. (Pilichowski 2007, 121.) According to a review done among the OECD countries, Finland was ranked among the top countries in Europe with rising rate of elderly population. The elderly growth is expected to rise from 17.3% to 26.2% in the year 2030. See table2 below. The high rate of aging will result to serious consequences to the economy since the ratio dependency will be high and this means that there will be escalating financial burden in maintaining their well being. (Arnold 2010, 57-58.) (Table 2)

Table2. Ratio of population aged 65 years and over to the total population in OECD EU member countries 2010 and 2030.



Republic of Kenya is situated in the eastern part of Africa. It attained its independence in the year 1963 from the British colony. The country covers a area of 569,260 kilometers square. It is ranked number 22 in size in countries of sub Saharan Africa. Kenya is divided into provinces and the capital city is Nairobi situated in central part of the country. (Brass & Jolly 1993, 8.)

The total Kenya population by 1993 was 29.4 million people, out of this population

the number of aged that is 65years and above is 4.2% of the total population which is 1.23 million people. Kenya has a diverse culture and customs, the 42 tribes adopts different cultural style ranging from cuisine, dressing, and general lifestyle. (Sobania 2003, 1-10.)

The elderly in Kenya are being occupied by being employed to work in the society; this is based on willingness and productivity. Free primary education introduced in 2003 to all children and seniors has seen a number of elderly attending regular lessons in classroom as demonstrated by 84 years old man. The elderly are being proposed to receive pension monthly that will help them for upkeep and meeting medical attention. (Brown 2009, accessed on 25.03.2013.)

People's Republic of China is situated in East Asia continent on western shore of Pacific Ocean. The country has a land mass of 9.6 square kilometers square whereby arable land covers 15.4% of total land. Geography covers plateau and desert. The governance of the land is divided into 33 provinces with capital city at Beijing. (Gunde 2002, 19.)

China's has the biggest population in the world with 1.3 billion people as of 6th January 2005. The country is multi-ethnic nation with 56 ethnic groups with the majority being Han group comprising 91.6% of the total population. The majority of the populations are atheist and only 100 million of populations are religious. (Ju & Brown 2006, 23.)

The population aged 65 years and above is below the 7% prior to 21 century. But it is expected to rise to 13.9% in the year 2025 and increase by almost a quarter by 2050. According to UN report of 2002, The number of Chinese elderly in the year 2000 were 87.9 million, while it is projected that, by the year 2050, the number of elderly will rise tremendously to 331.9 million. The figure was reinforced by the writer above. ((Uhlenberg 2009, 159.)

Chart 2 and 3 shows the elderly population is rapidly increasing in both developing and developed countries in the 21st century.

Chart 2. Population age 65 and older 2000 (UN 2002)

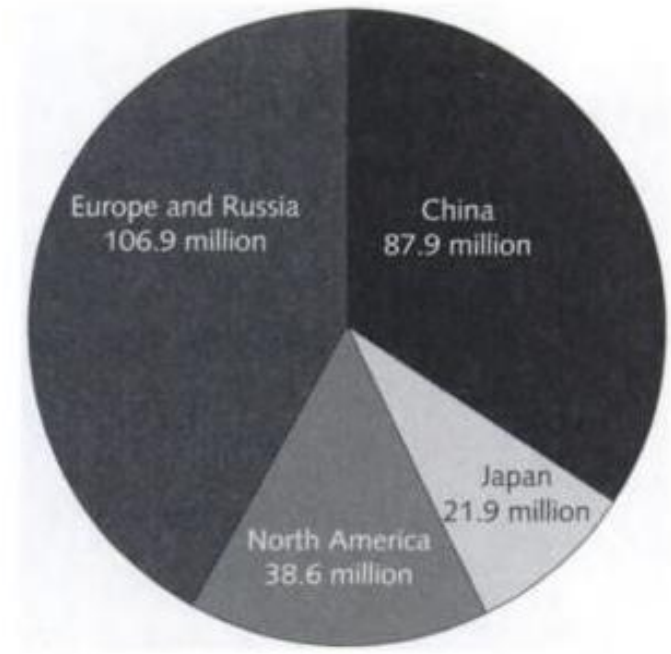
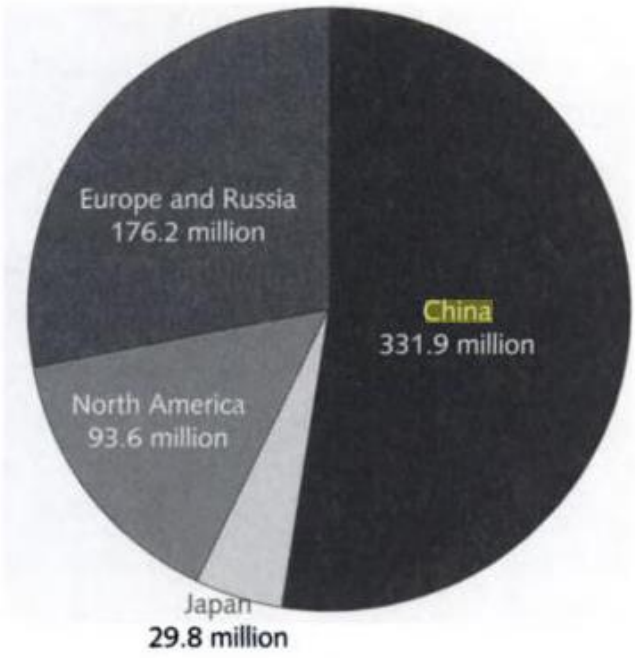


Chart 3. Population age 65 and older 2050 (UN 2002)



3 HEALTH PROMOTION OF THE ELDERLY

Health is a state of physical, mental, and social functioning that realizes a person's potential. It considers responsibility with collective action to ensure a society and environment in which people can act responsibly. It's also referred as a state of complete physical, mental, cultural and social well-being and not merely the absence of disease and infirmity. Healthy people have high quality life and life expectancy. (Sorensen & Broucke & Fullam & Doyle & Pelikan & Slonska & Brand 2012, 8.)

Presence of diseases and illness interferes with health. Diseases is failure of persons' adaptive mechanisms to counteract stimuli and stresses adequately, resulting in functional or structural disturbances while illness is a social construct in which people are in an imbalanced and unstable relationship with the environment being not able to survive. Focus areas in healthy people are access to quality health services for disabilities, malnutrition, overweight, presence of diseases, food and water safety, vision and hearing, oral health, absence of physical activity and fitness and substance abuse like use of alcohol and tobacco, all interfering with health. (Muggah & Graves & Bennett & Manuel 2013, 6.)

Health promotion is a process of enabling people to increase control over the determinants of health and thereby improve their health, health state of wellbeing physically, mentally and not merely absence of a disease. Its main aim is promoting health, preventing disease and prolonging life through organized effects of society. It is the most ethical, effective, efficient and sustainable approach to achieving good health. (WHO 1986, 151).

3.1 Primary Prevention

The most important part of health promotion is primary prevention which includes exercise being most effective, good nutrition, safe water, counseling , screening , adequate housing, and health education, immunization, prevention of accidents, hygiene and sanitation. Health education is to create awareness among clients. Key word is prevention is better than cure. Holistic and wellness approaches like good nutrition , health living environment, hygiene, going for check up and follow up, immunizations bring about disease prevention and health living among the communities which is referred to primary prevention. (Clark 2001, 497.)

3.2 Secondary Prevention

Secondary prevention considers prevention of spread of diseases, early diagnosis, treatment, to prevent disabilities and death. Public education are the main goals of health promotion. Promoting spiritual care depending on client's belief, promoting health pleasures, elderly care in homes is also considered in time of need. An infectious disease is an illness as a result infectious agent or toxins transmitted from one person to another susceptible reserviour, such as a person with lowered immunity. Precautions are taken to isolate and treatment is also very important. It is referred to as secondary disease prevention. ((Kozier & Erb & Berman & Snyder & Harvey & Morgan 2012, 24; Nandini & Tang & Andrews 2009, 157.)

3.3 Tertiary Prevention

Tertiary prevention refers to where disease is already present and nothing much to be done, only to prevent more complications and disabilities. For example, in elderly cancer patients of this stage who has a lot of diagnoses, effort is therefore made to just stabilize patient after chemotherapy. The use of drugs, supplement of good nutrition, and exercise among other care are in rehabilitative stage. Tertiary prevention observes restoration and rehabilitation by availability of health care facilities. (Bellizzi & Margot 2013, 65.)

4 THE IMPORTANCE OF EXERCISE TO ELDERLY'S HEALTH

Nowadays, people around the world do exercise everyday in order to keep health as it has long been proved that exercise has great effects on people's health especially to the good side. The target groups in most previous researches are young people. But very few researches have been targeted on the effects of exercise on old people. Being old means a great reduction in the daily movement or activities, but it does not mean that it is not necessary for old people to do exercise. Exercise applies to all age groups.

4.1 Definition of Exercise to Elderly

Exercise to older adults defined in a broader sense is that it comprises the daily activities people need to complete, their interests or hobbies, their support system, their living situation, and demands they must fulfil each day. (Taylor & Johnson, 2008, 124)

The term "active living" was first mentioned in a study by Collette (1994) et al on the intention of people to incorporate physical activities into their daily activities. Activities such as walking to the supermarket, walking up and down the stairs rather

than choose the elevator, wash some small items of clothes instead of using washing machine, cook food rather than eat outside. When this way of life applies to elderly people, it can be also includes dress and shower themselves, even do tiny things such as brush their teeth and comb their hair and eat instead of feeding by others. (Collette & Godin & Bradet & Gionet 1994, 418; Taylor & Johnson 2008, 126)

In elderly group, there is often a radical break with the working lifestyle, thereby eliminating all activities that require physical exertion thus leading to a progressive state of inertia. It is necessary to stimulate the corporal movement and to combat idleness, thus engaging the individual more physically stimulating leisure activities in which the body can adapt to them. (Lobo 2011, 16.)

“Active living” is highly recommended for the elderly population. What exercise means to elderly in this sense is a combination of physical activity and active living by making the best use of their daily activities. According to Taylor and Johnson, activities that older adults engage in will depend on their interests, physical abilities, and living situations. For example, interacting with grandchildren can be an excellent form of exercise such as rocking and stroking the baby and playing tickle or carry the baby. Such activities require good balance, upper and lower body strength. Participating in these fun activities is beneficial to both physical health and mental healthy as it providing emotional feedback through affectionate interaction and laughter (Taylor & Johnson 2008, 127).

Elderly get comprehensive advantages from regular physical exercise in that exercise helps to gain a healthy aging by improving the balanced capacity of physical, psychological, cognitive and sociological working to deal with the gradual process of physical decay of the body.

4.2 Types of Exercise

According to the overall effect physical exercise has on human body, physical exercise is generally divided into four groups: flexibility exercise, aerobic exercise, anaerobic exercise and balance exercise.

Flexibility exercise, such as stretching as much as one can without discomfort or strain improves the range of motion of muscles and joints such as tilt the head, bend the waist, twist ankle or wrist, making circle using hand, foot, and hip, etc (Connor & Crowe & Spinks 2005, 52-56).

Aerobic exercise, such as cycling, swimming, walking, skipping rope, rowing, running, hiking or playing tennis, focus on increasing cardiovascular endurance. Regular participation in any endeavor that involves rhythmic movements of your large muscles has the potential to increase aerobic fitness. In addition to the activities mentioned above, other options include using a stationary bike, treadmill, or stair-machine, etc. (Biller 2002, 62.)

Anaerobic exercise, , includes those in which the energy consumption is too great to be met by energy produced through the oxidative breakdown of fuels such as weight training, functional training, eccentric training or sprinting and high-intensity interval training, increase short-term muscle strength. Thus, activities such as climbing mountains, tough yard work, ball games such as football, basketball can be considered anaerobic exercise which involves higher-intensity movement than aerobic exercise. It is not recommended and carefully considered because of its increased risk of injuries supposing that elderly don’t have a good base of aerobic fitness. (Taylor & Johnson 2008, 148.)

Balance exercise or control of the center of gravity helps maintain the body balance thus improving independence and confidence and prevents falls. Nearly any activity that keeps you on your feet and moving, such as walking, can help you maintain good balance such as stand up without using hands, stand on one leg, raise the heel, stand

against a wall as close as possible, etc. (Mayo Clinic staff 2012, accessed on 31.03.2013)

Apart from physical exercise, **mental exercise** is the act of performing a mentally stimulating task that is considered beneficial to warding off Alzheimer's disease and dementia. Common examples of mental exercise are solving puzzles, playing board games, card games. Using one's memory is a form of mental exercise. Attempting to memorize a grocery list before someone goes to the store is easy and beneficial for the brain. Playing Scrabble and Sudoku are both ways to enhance cognitive ability as well. A study done by Princeton University researchers shows that even playing Bingo is an example of mental exercise for the elderly. (Verghese & Lipton & Katz & Hall & Derby & Kuslansky & Ambrose & Sliwinski & Buschke 2003, 8-16.)

4.3 The Changes Brought by Exercise

Different types of exercise bring about different changes to elderly among which physical changes are the most prominent and are now a growing area of research. Psychological and cognitive effects of exercise on elderly have also long been recognized by researches and studies. For example, old people are more likely to develop arthritis which can limit their daily activities. Moderate intensity physical activities such as stretching, swimming, brisk walking or water exercises are of great advantage to elderly people than to other age groups. They can help elderly improve their balance, flexibility, coordination, endurance, mental health, cognitive function and muscle tone which protects against falls. (Oshevire 2012, 30.)

4.3.1 Physical Effects

Regular activities can significantly decrease body fat thus lowering the probability of obesity. Regular exercise can decrease blood pressure, improved lipid profile in that it creates more high-density lipoprotein, less low-density lipoprotein and lower total

cholesterol levels and it is also acted as insulin. (Taylor & Johnson 2008, 86).

Weight-bearing exercise as one of the most popular physical activity is thought to create stronger skeleton and reduce the risk of hip fractures in later life. Some programs which include exercises to improve strength and balance are tailored for elderly who are at risk of falling, or who have fallen to achieve good individual assessment. (Taylor & Johnson 2008, 86.)

It has been shown in many researches that physical activities reduce the incidences of falls in elderly. In Kawano et al study, ball exercise has been recommended as a suitable exercise in a fall prevention program for the elderly. (Kawano & Takasugi & Kamishima & Masumoto & Iwamoto 2006, 95-98.)

Aerobic exercise, such as walking, jogging or swimming is remarkably beneficial; they can maintain the heart and lungs functions and improve cardiovascular fitness and endurance. It has also been noted in the recommendations; regular physical exercise is a very effective therapy for various chronic and acute diseases ranging from cardiovascular disease to thrombi-embolic stroke, hypertension, type 2 diabetes mellitus, osteoporosis, obesity, colon cancer, breast cancer, anxiety, and depression. Physical exercise also reduces risk of elderly falls and injuries, prevents or mitigates functional limitations and improves independency. (Lobo 2011, 13.)

It has been shown that aerobic exercise can reduce the inactivity-induced loss of strength, mobility, balance, and endurance which are the vital factors for the safety and daily performance of the elderly. Other recent studies have also shown a strong relationship between exercise and improvements in balance, strength, and flexibility in a positive way. (Bakken & Carey & Fabio & Erlandson & Hake & Intihar 2001, 1870-1879.)

In another present study by Fábio et al, it was found that after 3 months exercise

training, the metabolic parameters related with insulin resistance were improved. Aerobic exercise training is very popular because of its weight loss effects. It triggers an increase in the aerobic capacity, fat oxidation by the skeletal muscle and a reducing of total cholesterol, and of VLDL (Very Low Density Lipoprotein), TG (Triglyceride), NEFA (Nonestesterified Fatty Acid), all of which contribute to the improvement of serum lipid profile. (Fábio & Gustavo & Ronaldo & Lila & Ana & Cláudia & Valter & Rita & Viviane & Marcos & Andrea & Sergio & Marco 2011, 113-118.)

4.3.2 Psychological Effects

Apart from physiological effects, it is also shown in the scientific research that exercise can slow down the psychological aging clock. Research by Chen and Fu (2008) claims that leisure activities help elderly relax, maintain a good mood and improve psychological wellbeing and quality of life during aging, leading to health promotion among the elderly people. What' s more, Kruger et al (2012) discovers that continuous exercise which involves mental muscles helps the mind to be healthy in that it helps us maintain our personal attribute throughout our lifetime such as intellect and emotion. It has been revealed that hospitalized elderly people can also achieve good moral and psychological fitness for a long run through proper exercise. Moreover, Brooker and Duce (2000) state that long term hospitalized elderly people experience a improvement of mood and psychological health via leisure activities such as watching TV, playing cards, doing craft and listening to music. (Brooker & Duce 2000, 354-358; Chen & Fu 2008, 871-889; Kruger et al 2012, 193-201; Mbuthis & Bambot 2011, 8.)

Tai Chi as a traditional Chinese martial art exercise is now popular around the world which brings about physical and psychological wellbeing to elderly. In another study by Li fuzhong which examined whether a Tai Chi exercise program enhanced elderly individuals' psychological well-being, the result indicated that individuals who participated in a six month Tai Chi exercise program showed higher levels of health

perceptions, life satisfaction, positive affect, and well-being and lower levels of depression, negative affect, and psychological distress. The implications of these findings are discussed relative to potential underlying mechanisms associated with the exercise-psychological health relation in older adults. (Li & Duncan & Duncan & McAuley & Chaumeton & Harmer, Peter 2001, 53-83.)

4.3.3 Cognitive Effects

Nonaka (2012) reported that after a certain period of exercise program, the brain cognitive functions of cognitively intact elderly have been improved, such as attention, delayed memory, and verbal fluency, but not in a immediate recall. Other studies also showed that aerobic exercise improved the delayed recall function in elderly individuals. (Nonaka 2012, 742-54.)

Physical exercise has been regarded as a useful non-pharmacological intervention strategy, capable of improving memory and executive functions in older people with mild cognitive impairment.8 In this regard, it has been stated that exercise could modify the risk factors and pathological mechanisms associated with cognitive impairment and it might even delay its onset. Exercise-induced hypertrophy of the hippocampus (which would protect from neuronal degeneration), and exercise-induced production of growth factors (which would enhance neurogenesis) seem to be responsible for the preceding mentioned positive effects. (Varela & Ayán & Cancela & Martín 2012, 442-450.)

4.3.4 Sociological Effects

Tai Chi is an ancient Chinese practice of disciplined exercise that is publicly practiced by older people in and around the parks and open spaces of Hong Kong, as well as in mainland China and other Asian countries. The practice is characterized by sequential shifting between double-leg and single-leg stance coupled with reciprocal arm

movements and coordinated breathing, and spinal rotation. When performed for 20 to 60 minutes several times a week for several weeks, Tai Chi provides multi-systematic health benefits. Considering the propensity of people in Hong Kong and the Chinese mainland to do Tai Chi, which is already a social phenomenon throughout Asia and increasingly in western countries, and considering the supportive scientific evidence, community-based programs of Tai Chi have the potential to provide public health benefits in the well elderly as well as in people who have chronic degenerative or progressive conditions. There is also evidence that improvement in friendliness and pleasantness among individuals who practiced Taichi. Scientific investigation has shown that the social benefits that developed through the regular practice of Tai Chi are long lasting among elderly population. (Jones & Dean & Scudds 2005, 619-625; Ross & Presswalla 1998, 45-47, 7)

One of the great benefits of exercise for the elderly is that it is an easy way for the elderly to stay social. As people age, they tend to be more reclusive and this is bad for them physically, emotionally and mentally. Being involved in exercise groups, ballroom dancing clubs, or just groups of friends who get together to walk are all ways to get the physical as well as social benefits of exercise for the elderly. (Ramberg 2013, accessed on 04.04.2013)

As the emotional health and self-esteem improves, the social relations may also improve. Elderly may be more likely to reach out to others due to your increased self-confidence. Also, participating in a sport or aerobics class will introduce you to new people that share a common interest. Meeting others may be the first step toward establishing new friendships and developing a support network. (Kulas 2011, accessed on 04.04.2013.)

5 NURSES' ROLE IN PROMOTION OF ELDERLY HEALTH

Nurse's role in health promotion and protection on elderly care includes advocate,

consultant, educator, healer, researcher care manager and deliverer of service and as a way of developing nursing as a profession (McDonald 2010, 221.)

Nurse being a researcher showing how nurses in today's health care environment are striving to understand and interpret research findings as their foundation for clinical decision making. It is well illustrated by evidence based practice. It integrates individual clinical expertise with the best available clinical evidence from systematic research. It all aims at improving prospects for health, moving toward getting solution to problems. Nurses coordinate with multi-disciplinary team and apply the theory to practice. (McCrae 2012, 225.)

All this entails health teaching process where nurses always possess enough knowledge and have evidenced based practice in all situations they intervene. For example, encouraging good nutrition, immunization like influenza vaccine, taking safety measures, advocating hygienic housing, discouraging the use of tobacco, alcohol and caffeine and generally trying to promote healthy living. (Mcdonald, 2010 100.)

Nurses have a role in using nursing care process as a tool for clinical nursing care practice. It comprises holistic care of the patient by considering wellbeing in health behavior, functional physiology and psychology. It has four components of nursing process: diagnosis, planning, implementation and evaluation. It is a guide for care and monitoring progress, the nurse is therefore accountable. (Saba 2007, 4).

5.1 Nursing Process

Nursing diagnosis is a component with a cluster of elements that represents a way of what kind of care should be given. It looks to the needs of the patient holistically. It is a clinical judgment about individual, family, or community experiences to actual or potential health problems. It indicates what a nurse can do, for example, to an altered

body temperature evidenced by fever or knowledge deficiency of a patient. (Saba 2007, 4).

Nursing plan means that patients care and all services are planned like medical orders by referring doctors. Nurse admits and reviews the care and intervenes and gives general assessment from signs, symptoms and expected outcome. Nurses form plan of care which requires the nursing intervention, implementation following the nursing process. (Saba 2007, 4).

Nursing implementation refers to nursing action or role in treatment, procedures, activities planned, such as in high fever, antipyretics and tepid sponging are given to patient. Its goal is to get outcome to a diagnosis where the nurse is accountable. (Saba 2007, 4).

Nursing evaluation refers to nursing assessment of the general state of the patient after nursing care. It is nurses' role to evaluate if achieving the goal or in need of re-planning or discharge. Comments like improved, stabilized or deteriorated are made. Measuring outcome comes from intervention. (Saba 2007, 4).

5.2 Holistic Approach in Promotion of Health

Regular physical activities enhance both psychological and physical health. It improves health profiles and safe guard functional independence in aging period. Holistic approaches includes cardio-respiratory health by increasing oxygen intake, muscular skeletal health by increasing strength, flexibility and bone density, cardiac health by increasing the efficacy of the heart and reduce the risk of stroke. It helps in weight reduction and body awareness, self inquiry and acceptance and reduction of psychological stress and increases sense of well being. (Loretz & Madeline 2008, 42.)

Holistic care of elderly patients does not merely involve use of drugs. It also needs

emotional comfort, physical rest, occupational therapy, culturally competent nursing and socially corrective surgery. For example, the use of a walker of different kinds with constant intervention of a physiotherapist provides infection prevention, injury and pain relief. Normally different conditions have different presentation thus requiring different goals in care which means plan of action. (Loretz & Madeline 2008, 42.)

Collaboration with other sectors during the care to promote health by consultation to nutritionist, physicians, psychiatrists, occupational therapists, dentists, ophthalmologist, physiotherapists, laboratory staff, radiologists and other areas of specialization is considered holistic care. They work in solidarity and consult each other. Nurses play big role by providing information, implementation of plan, mobilizing and general evaluation. (Mandle 2006, 52; 262.)

5.3 Prevention of Fall

Nurses play a major role in the care of elderly as they are often at risk of injury from falls and are often fear of falling and physical activity. Falls is a crucial factor which affects elderly quality of life and increases the health care burden. As a result of fear elderly restrict their activities thus leading to reduced mobility and physical fitness. The reasons of falls in elderly are ranging from poor balance, poor vision, and muscle weakness to dementia. About a third of the elderly falls each year are reported and incidences increases with age. Nurses play an important role in the assessment and adoptions of precautions. Other intervention for a nurse to take is provision of moderate physical activities as exercise lowers the risks of falls. Exercise helps control weight and contributes to healthy bones and muscles. Four main types of exercises for preventing falls are endurance activities, strengthening exercises, stretching exercises and balance exercise. All are tailored to bring about strength, flexibility and balance. Walking significantly brings about reduced falls in elderly. Nurses should also take proper history examination, assessment and thus giving

advice accordingly because most falls are predictable and preventable. (Atay & Akdenız 2011, 11-18.)

6 IMPLEMENTATION OF RESEARCH

6.1 Research Problem

The main aim of this study was to observe the experiences, awareness and implementation of exercise among elderly people in three different countries and find out what is the nurses' role in provision of exercise and how nurses can promote exercise in the most possible ways so long as exercise brings a variety of benefits to elderly people. We are motivated to do this research in order to find out answers to the following research problems which are issues of our common concern.

1. What are the elderly experiences about exercise?
   1.2. How do the elderly implement exercise?
   1.3. How do the elderly experience the effects of exercise on their health?
2. What is nurses´ role in promotion of exercise among elderly?

6.2 Research Method

This research was carried out in a quantitative way. The aim of quantitative research focuses in counting and classifying features and constructing statistical models and figures in order to explain what has been done and observed. Quantitative research usually starts with a theory, which in this context can be described as a broadly deductive approach and is largely concerned with the objective measurement and quantification of phenomena. (Cowman 2009, 67; 72.)

In this research authors intends to gather information on the health care phenomena of elderly performance of exercise. This research was done in an interactive way between researchers and respondents by using the face to face way where researchers

give out questionnaires and respondents answer directly by marking the suitable choices. In the whole process, respondents are accessible to the researchers if they encounter any problem in doing the questionnaire.

In quantitative research, clear definition of terms is particularly pertinent to the study design. In selection of terminology, we need to ensure that wherever possible the words and questions that are used have fixed meanings. Other considerations in designing a survey relate to the prior knowledge that the respondent is likely to hold – will they be able to understand and answer the questions? Also, are there too many questions? Do all of the questions have relevance or are they there because they seemed like a good idea at the time? (Cowman 2009, 74-75) All these questions above were taken into consideration when researchers constructed the questionnaire.

6.3. Data Collection

This is a quantitative research which was conducted in three different countries, Finland, Kenya and China. A questionnaire (Attachment 4) was designed and used in this study for date collecting purpose.

Questionnaire survey is a commonly used design in quantitative research. It has several advantages including the flexibility of implementation as where and when to conduct. It does not usually need to be undertaken in strictly controlled environments such as a laboratory or clinical setting as in our case the research was taken in elderly home. (Cowman 2009, 81)

Research was conducted in Purola elderly home, Kemi, Finland. Purola elderly home was established in 1997; currently it has 57 elders who stay in their own apartments under the care of nurses. The premise is equipped with swimming pool, gym, paddling exercise bike, services like massage etc. Apart from nurses, there are also physiotherapist and doctors.

Research was also carried out in Cherangani nursing home and Eldoret nursing home, Kenya. Cherangani nursing home is a private medical premise that offers all kinds of medical services that covers all ages. Clients are either inpatient inpatients or outpatients. There were about 30 elders admitted in the nursing home at the time of study. There are 5 resisted nurses, 10 practical nurses, 2 physiotherapist and lab technicians. The catchment of the clients is within Kitale town and surrounding. The permission to conduct the questionnaire was given through the introductory letter from the school (Attachment 2). Eldoret nursing home was founded in 1975. In 1993 it was transformed to Eldoret Hospital, now the largest private hospital in the region. It has several departments with different specialties and facilities with a vision of being best health care provider dedicated to research. Questionnaires were distributed to clients in medical ward with permission through introductory letter from school (Attachment 1). Most of patients were elderly who had been in hospital for more than one week or who were bed ridden. Mobilization was encouraged by nurse there and physiotherapists helped the clients do most of rehabilitative exercises. Patient gym was equipped with functional and physical recovery facilities to enhance shorter hospital stay and quick recovery.

Research was also carried out in Ri Yuexing nursing home, Shanghai, China. Ri Yuexing nursing home is located in Pudong district, Shanghai, China. It has two main parts with 300 beds. One part is for elderly with illness and disability while the other part is for elderly with normal aging. There are double, triple and shared full-care medical rooms. Activity areas for the elderly include a multimedia room (TV, karaoke), chess and card room, reading room, handmade, calligraphy and painting area, etc. The staff includes medical, surgical, and Chinese medicine doctors, practicing physicians, nurses who provide professional medical services (clinic treatment of common and frequently-occurring disease and acupuncture, massage, physical therapy, rehabilitation, etc.). The target population of the study is elderly people who are living in the elderly home and are taken care of by nursing staff with home care facilities.

The questionnaire is the medium of communication between the researcher and the subject. A good questionnaire is designed to achieve objectives to the most possible way. It elicits the most accurate information to enable the researcher to answer the objectives of the survey. A good questionnaire is attractive in layout and appearance which can trigger the responders' interest to answer it. A good questionnaire should also include an introduction showing the main topic of the questionnaire. (Brace 2004, 4; Hunt 2011, accessed on 01.05.2013.)

The questionnaire of this thesis was prepared by using very simple vocabulary, structure and grammar to investigate exercise among elderly people in three countries. The questions are aligned in a logic order from the experience to implementation to promotion of exercise among elderly. An introduction was written at the front of the questionnaire to let the responder gain some understanding of the questionnaire before they do it This questionnaire was carried out successfully with high response rate which shows responders were interested in it.

Questionnaires were distributed in Purola elderly house in Kemi city, Finland. The permission was given by the manager Raija Lahti through email with the help of thesis supervisor Eila Heikkinen. Questionnaires were also given out in Ri Yuexing elderly home in China by the permission of the manager Miss Zhu after a face to face consultation. Questionnaire was also distributed in elderly home in Kenya through the letter of introduction (Attachment 3) given by supervisor Eila Heikkinen. No physical intervention is required and it is usually administered relatively quickly thus making it more amenable to potential respondents and easier to convince people to participate in and it is capable of generating large amounts of data relative to the resources and efforts of the researcher are employed. (Cowman, 2009, 81)

Researchers distributed 60 questionnaires in Kenya, 50 questionnaires in China and 45 questionnaires in Finland. In order to help the elderly people understand the questionnaire in China and Finland due to the language barriers in these two countries,

the questionnaire was first designed in English language and then translated into Chinese and Finnish with the help of Ulla Pörhö who is a native Finnish nurse working in Oulu hospital in Finland and also ready in Chinese by one of the author of this thesis whose native language is Chinese.

The questionnaire includes 20 closed questions with several multiple choices among which some choices contains open-ended questions which supplement the insufficiency and limitation of information derived from the closed questions. Questions 1 to 3 are background questions which are aimed at getting information for elderly age, gender and education level. Questions 4 to 7 are designed to find out how the elderly perform exercise in their own way. Questions 8 to 16 are developed to know the elderly experience of the exercise on their health. Questions 17 to 19 are meant to get some information on how much and what kind of guidance and assistance they get from nurses. Item 20 is a conclusion question which provides answers to the overall satisfaction degree of exercise among elderly people.

According to Moule and Goodman, data collection is any process of preparing and collecting data with the purpose of obtaining information. (Moule & Goodman 2009. 288)

The researchers prepared the questionnaires with open ended questions using simple understandable language which allowed the participants to select the choices provided. The researchers collected the data from the elderly, in Kenya the data was collected from elderly in nursing home, while in China and Finland the data was collected from elderly in elderly home. For Finland, preparation of questionnaires was slightly challenging because of language barrier but the researchers looked for a Finish research assistant who translated the English words to Finnish without changing the structure and meaning of the sentence.

6.4 Analyzing of Data

The researchers distributed 60 copies to elderly in Kenya and they managed to get back 47 questionnaires. While in China, 50 questionnaires were distributed to elderly and 48 copies were returned. In Finland, 45 copies were distributed and 22 copies were returned successfully. The researchers collected the answered questionnaires and started to analyze them of the three countries by using a comparative way. The result from the study was discussed in terms of overall scores per country and compared with the results from the other two countries since participants from three countries answered similar questions. The table and graphs were made to show the true representation of the results obtained.

6.4.1 Reliability and Validity

Reliability refers to accuracy and consistency of information obtained in a study. The researcher's measure of reliability include; the stability of measure, the internal consistency and equivalence. (Polit & Beck 2010, 106.)

The literature for this research was acquired from reliable sources. The search began with the use of proposed topic. International journals were used with selected keywords for the study. Books, Internet and books were mostly used. Advanced search and reviewed articles were also used with selected keywords.

Validity is a measure of whether a data collection tool accurately measures what it is supposed to. In nursing practice, the validated measurement tools are used to record data on daily basis. (Moule & Goodman 2009, 184, 288.)

The researchers reviewed the previous quantitative thesis on how to draft the questionnaires and upon submission to the teachers for testing, it was accepted. The researchers employed a translator to translate the questionnaires from English to

Finish for Finish participants.

The all process was within the timeline since the researchers dint encounter any pressure of time constrain. The teachers were readily available in case of consultation, checking of the progress attained and also recommending on the next step.

6.4.2 Ethical Issues

Nursing has its ethical guidelines as illustrated by code of ethics, its aim is to provide for all nurses in their everyday decision making concerning ethical questions of nursing, its oriented to all nurses and express their mission and principals. (Ulrich & Taylor & Soeken & O'Donnell & Farrar & Danis & Grady 2010, 10-19.)

In nursing research, clients' confidentiality has to be respected. Client confidentiality refers to the right to assume that the data collected shall be kept confidential. The respondents' identity is not exposed to achieve a complete anonymity and the information collected is not shared. Research respondents have the right to decide whether to take part in the study or to refuse and ask clarification about the purpose of the study. Individual with diminished autonomy require protection, for example, mentally impaired clients. Consent has to be obtained from their legal guardian. (Maalim 2005, 66.)

In the process of questionnaires conduction, clients were explained what kind of research they shall do and they were requested if they agreed to participate or not. Elderly clients were participating in this questionnaire by anonymous manner. Elderly were given questionnaires according to their own will. The names of the three elderly home were allowed to be given in the thesis work through the permission of the managers in these three places.

7 RESULTS AND CONCLUSION

7.1 Background of the Participants

In this part, questions 1-3 which are as background enquiry questions are analyzed.

Table 3

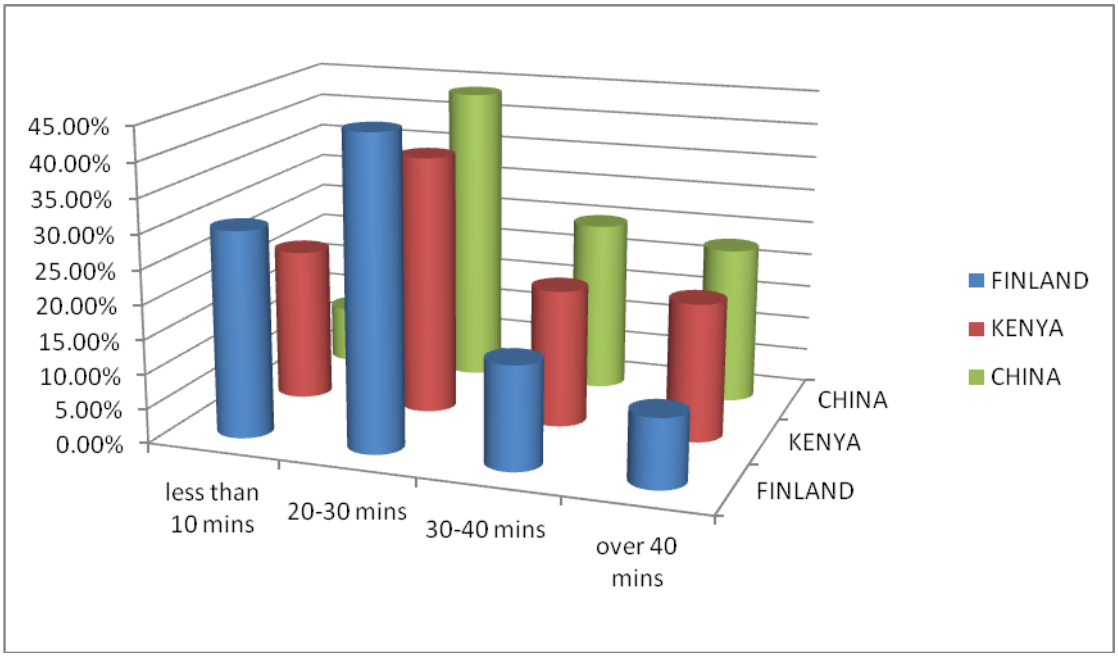
Variables		Frequency			Percent		
		FINLAND	KENYA	CHINA	FINLAND	KENYA	CHINA
GENDER							
	Male	5	28	18	22.7	59.6	37.5
	Female	17	19	30	77.3	40.4	62.5
AGE							
	60-70	2	23	18	9.1	48.9	37.5
	70-80	3	18	18	13.6	38.3	37.5
	80-90	11	3	10	50.0	6.4	20.8
	90-100	6	3	2	27.3	6.4	4.2
EDUCATION							
	No Education	3	10	6	13.6	21.2	12.5
	Primary Level	10	13	13	45.5	27.7	27.1
	High School	6	11	16	27.3	23.4	33.3
	Higher	3	13	13	13.6	27.7	27.1
Education							

Table 3 shows the gender, age and education level as the background information of the elderly participants. It is noted that in Finland and China, female elderly participants are the majority while in Kenya it is a different situation. Most participants are from 80 to 100 year old in Finland while most elderly people are from 60 to 80 years old in Kenya while Chinese elderly people are mainly from 60 to 90 years old. It is also prominent that elderly participants whose age is from 90 to 100 years old counts for 27.3% in Purola, Finland. It shows the life expectancy in Finland is quite long while in China and Kenya, the percentages are quite small. The result coincides with The World Health Organization Global Burden of Disease study, published updated figures in 2012, the recalculations of life expectancies, which shows the overall life expectancy at birth is 79.34 in Finland, 72.71 in China and 54.98 in Kenya.

7.2 Implementation of Exercise by Elderly

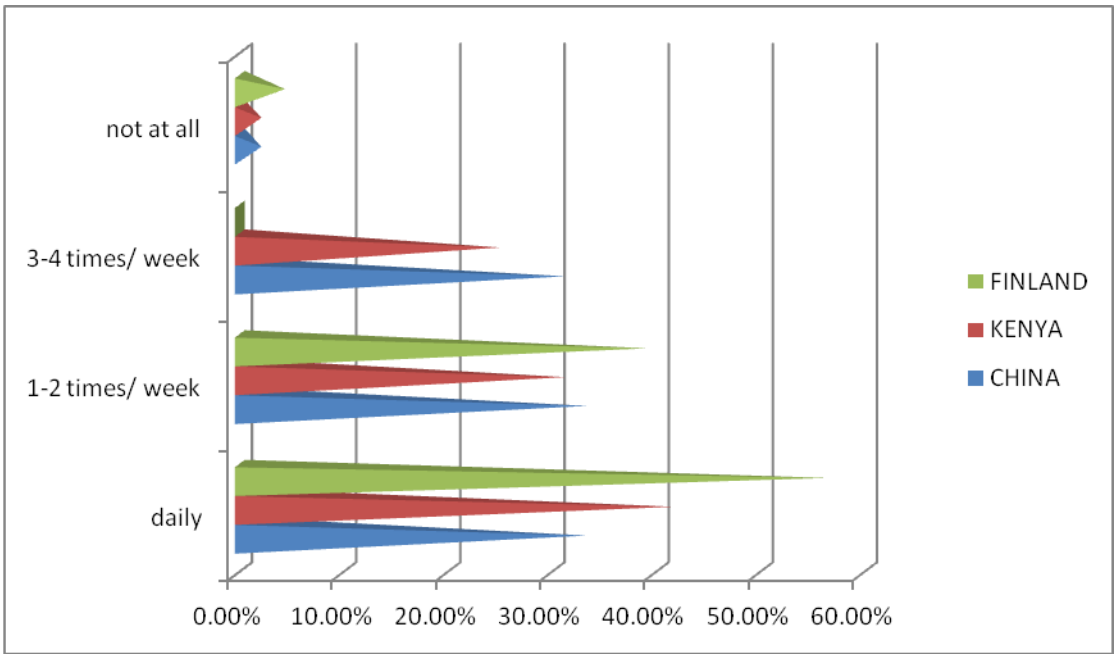
In this part, questions 4-8 which are about the elderly experience of exercise are analyzed.

Graph 1 Time Consumed in Exercise by Elderly



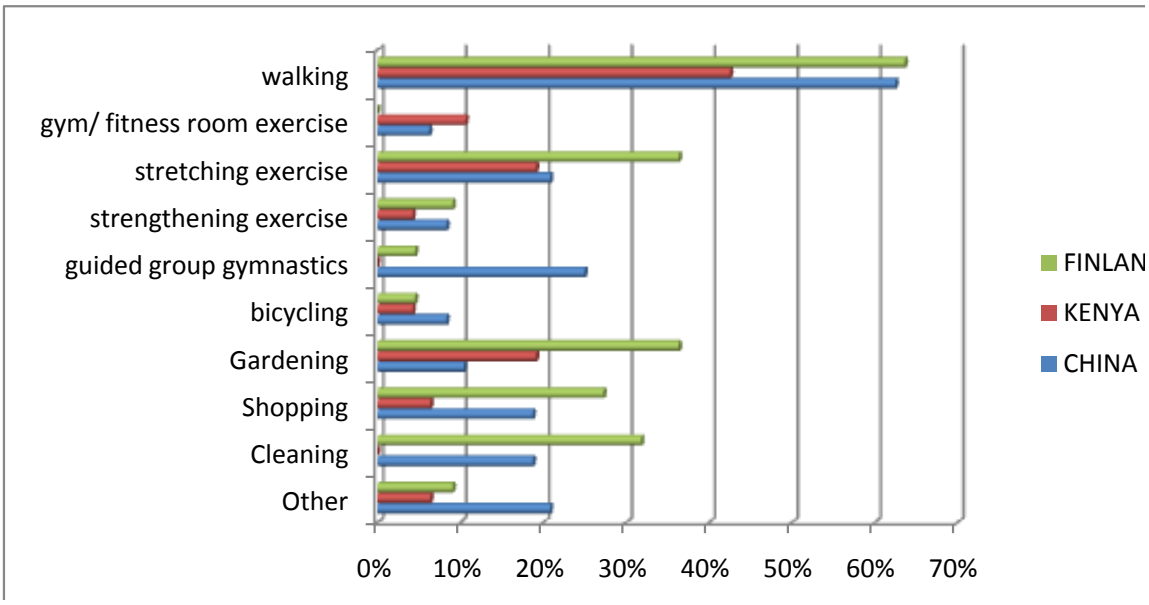
Graph 1 shows how long elderly people usually participate in exercise. A common feature of the three countries is that most elderly people participate in exercise for 20 to 30 minutes. (About 45% in Finland, 44% in China and 38% in Kenya). In China, only a few elderly people (about 8%) participate for less than 10 minutes each time while the percentage from Finland and Kenya is quite high (about 30% in Finland and 22% in Kenya)..In China and Kenya, about 22% and 20% elderly participate in over 40 minutes exercise respectively while in Finland, only 10% of elderly participate in such long time exercise. From what we get from the background information that many Finnish elderly are between the age 90 to 100, it might not be easy for them to participate in quite long time exercise due to the physical changes brought by aging mentioned in the previous chapters such as reduced muscle strength and aerobic capacity, reduced cardiac and inspirational functions and reduced bone density.

Graph 2. Frequency of Exercise Performed by Elderly



Graph 2 indicates that very few elderly (4% in Finland, 2% in Kenya and China respectively) do not do any exercise at all. This is a very good sign that indicates elderly are aware of the importance of exercise in three countries. The majority of elderly (57% in Finland, 42% in Kenya and 33% in China) do exercise every day, no matter big or small exercise. About 40% elderly in Finland, 31% elderly in Kenya and 33% elderly in China do exercise for only one to two times a week probably due to age related weakness, illness and feeling of insecurity.

Graph 3. Different Forms of Exercise Performed by Elderly

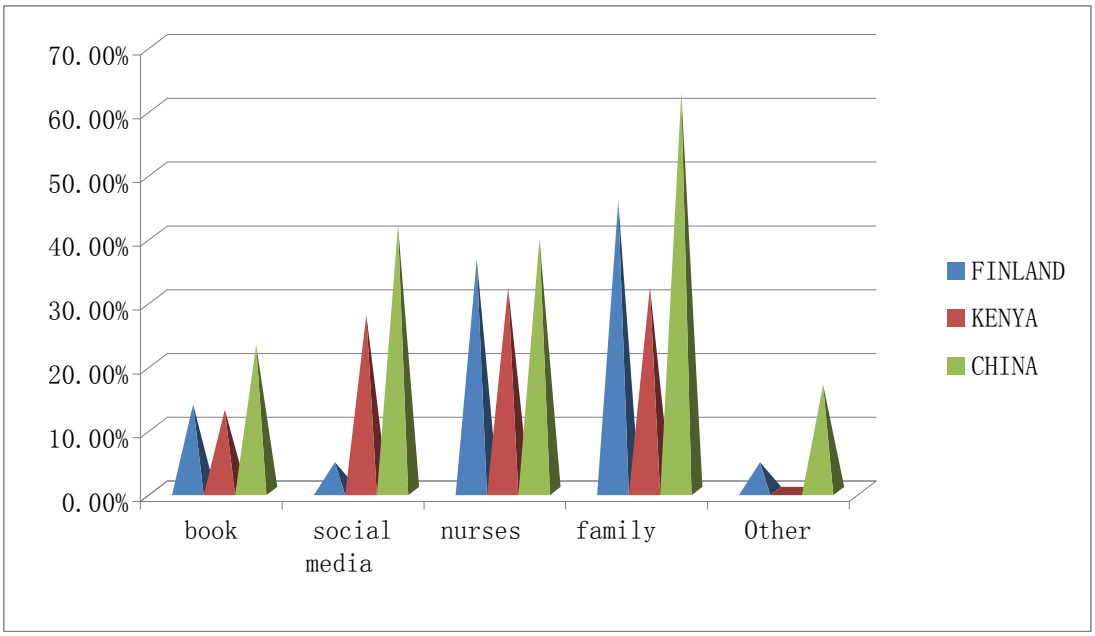


Graph 3 shows that elderly were asked what kind of exercise they do usually. One outstanding feature is that in three countries, walking is the most popular way of exercise which accounts the highest percentage (63% in Finland, 62% in China, 43% in Kenya). Stretching exercise, gardening and shopping are also preferred by elderly people in three countries. Only a few elderly in three countries prefer bicycling and strengthening exercise probably in consideration of safety. It is also interesting to note that no one chose cleaning as an exercise in Kenya due to the cultural belief that cleaning is part of everyday life and people do it every day so it can' t be seen as exercise. No one chose gym exercise in Finland since they are probably too old to do exercise in gym.

In Kenya, five elderly had other forms of exercise apart from what were given in the questionnaire. Three out of the five had an opinion that they walk around their farms as part of the exercise. While the remaining two said that they skip by a rope as part of the exercise. In China, ten of the elderly had different choices on how they exercise; i.e. dancing (1/48), walking up and down (1/48), Taichi exercise (3/48), leg lifting (1/48), Mahjong (3/48) and mass dance (1/48). In Finland, two out of 22 elderly had different type of exercise. One said he does baking and handcrafts while the other said

he does gymnastics. It is interesting to notice that in Kenya, a considerable number of elderly chose skipping a rope as their way of exercise which is not seen in China and Finland because of cultural difference. While in China, Taichi is quite popular among elderly due to its historical influence and long proved effects since it is a very old way of exercise passed down from generation to generation in China since old time. Mahjong as a traditional Chinese game which involves skills, strategy and calculation is also preferred by quite a lot elderly people as their leisure activities. It is only popular in China because of cultural difference.

Graph 4. Sources of Exercise Information



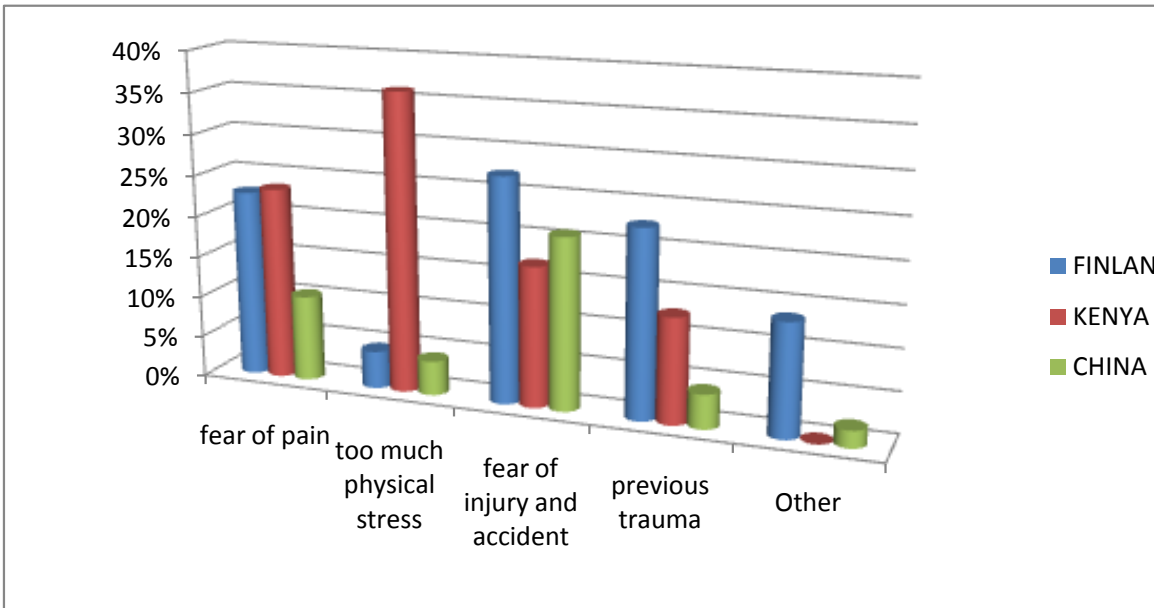
From graph 4, concerning where do elderly get information about exercise, one prominent contrast among three countries is that only one Finnish elderly (5%) got information from social media while around 28% Kenya elderly and 42% Chinese elderly said they got information from social media. In China the majority got informed from family members represented by 30/48, about 63%. The percentage is also quite high in Finland and Kenya, around 45% and 31% respectively. Thus it is obvious to say that in all cultures, family members play very important role in giving information of exercise to elderly people. Nurses play a second important role in guiding elderly with exercise information with 36%, 32% and 40% in Finland, Kenya,

and China respectively. One Finnish old man said he got exercise information from physiotherapist. Five Chinese elderly said they got information from friends, one from computer, one from pamphlets and one said he got information from no where.

7.3 Elderly Experiences of the Effects of Exercise

In this part, questions 9-16 which are about the elderly experience of the effects of exercise on their health are analyzed.

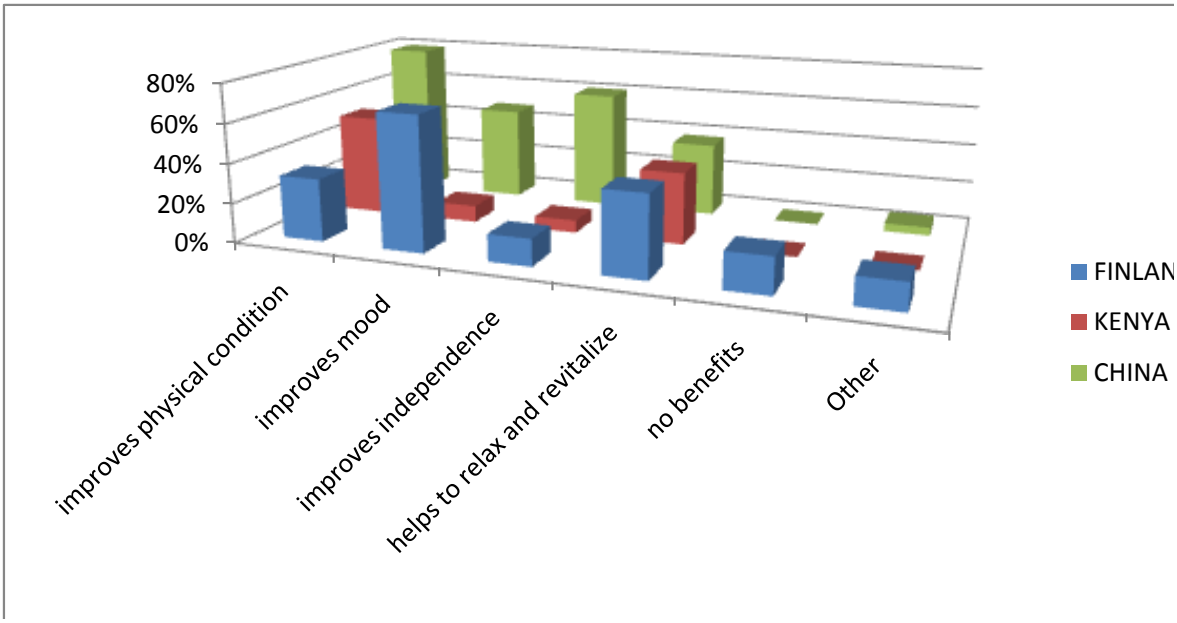
Graph 5. Reasons of the Feeling of Insecurity during Exercise



Graph 5 indicates that in Finland and Kenya, 23% elderly people said they feel insecure due to the fear of pain when exercise while in China, only 10% elderly said so. Third of the elderly (36%) in Kenya feel not safe because of too much physical stress which is a situation not often seen in China and Finland. Considerable numbers of elderly in three countries (27% in Finland, 17% in Kenya, 21% in China) said they feel insecure because of fear of injure and accident such as falls which are very common accident among elderly population due to the decrease balance. Around 23%, 13% and 4% of elderly in Finland, Kenya and China said they fear of previous trauma when exercise. In China, one (1/22) elderly had a different opinion of feeling not safe

to exercise because she is afraid of falling down. In Finland, three (3/48) elderlys had a different opinion on why they are not safe when exercising. The first elderly said he can't keep balance, the second elderly responded by saying that he fears of fall and dizziness and the third responded by saying that he fears of walking because of his condition.

Graph 6. The Effects that Exercise Brings



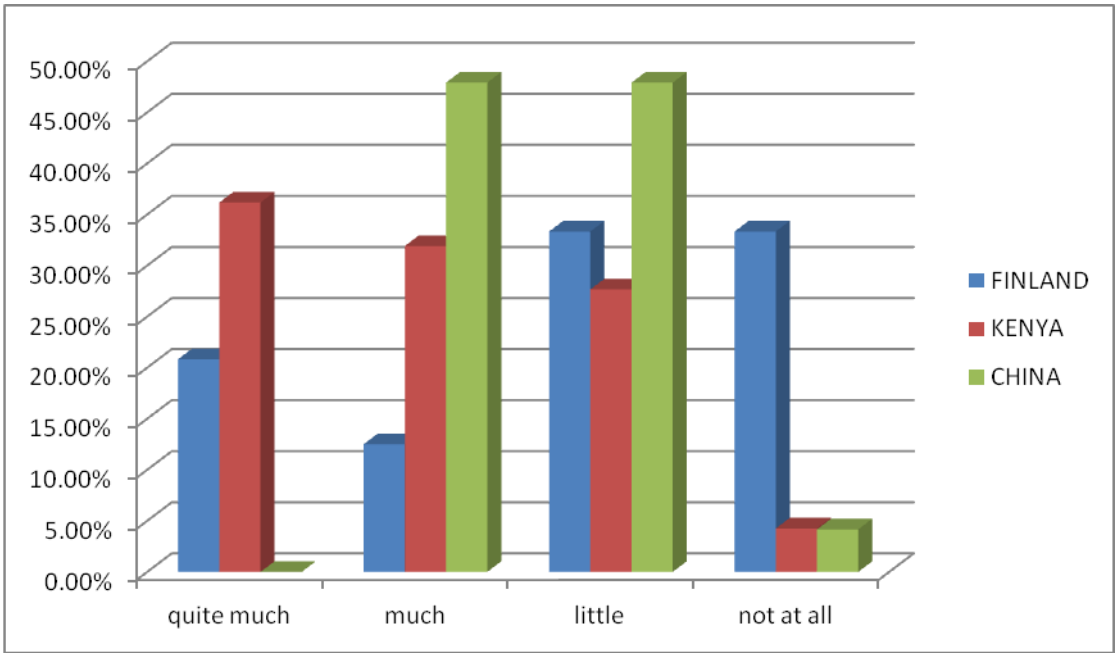
Graph 6 shows that around 32%, 51% and 79% elderly in Finland, Kenya and China respectively said exercise improves physical conditions which are of high percentage, especially in China. A high percentage (68%) of Finnish elderly stated that exercise improves mood while only 9% of Kenya elderly said so. About 60% elderly in China thought exercise helps them improve independence, while only 14% and 6% of Finnish and Kenya elderly thought so because the independence of Finnish elderly is restricted by age. Considerable percent of elderly in these three countries (41% in Finland, 36% in Kenya, 38% in China) said exercise help them to relax and revitalize. Several Finnish elderly (18%) thought exercise does no good to them because they do not experience the changes brought by exercise. This coincides with the previous theory that some of the changes brought by aging can't be controlled even through exercise. While in China and Kenya, no elderly said so. In Finland, one elderly said

exercise helps with sleep while one said exercise helps to raise the hip and another said exercise helped him to eat himself because he is too old. In China, 2/48 elderly said exercise helps them sleep well.

7.4 Nurses' Role in Promotion of Exercise among Elderly

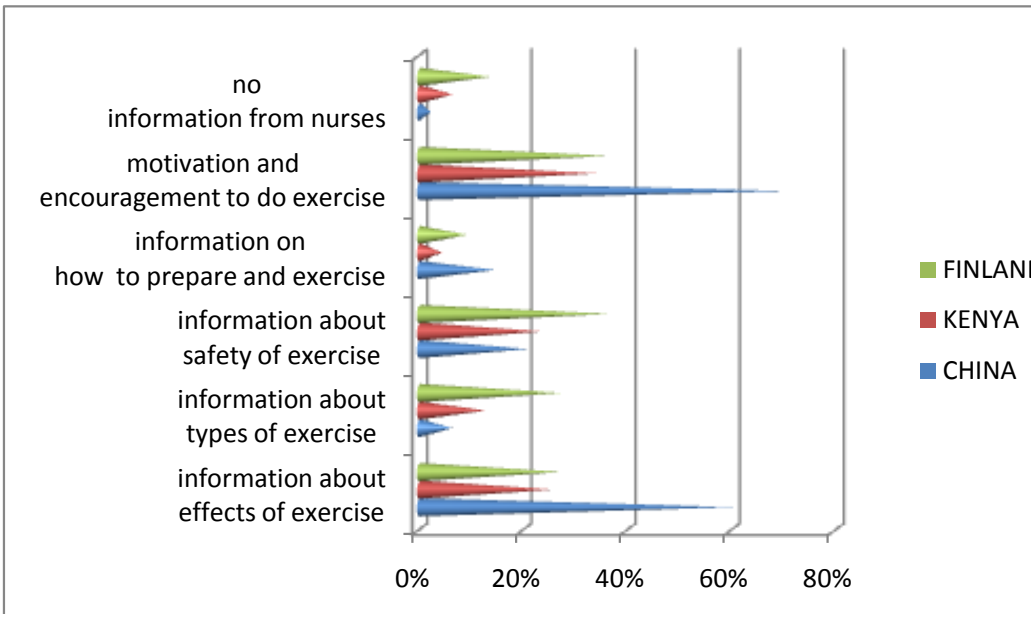
In this part, questions 17-19 which are about nurses´ role in promotion of exercise among elderly are analyzed.

Graph 7. Amount of Exercise \ Received from Nurses



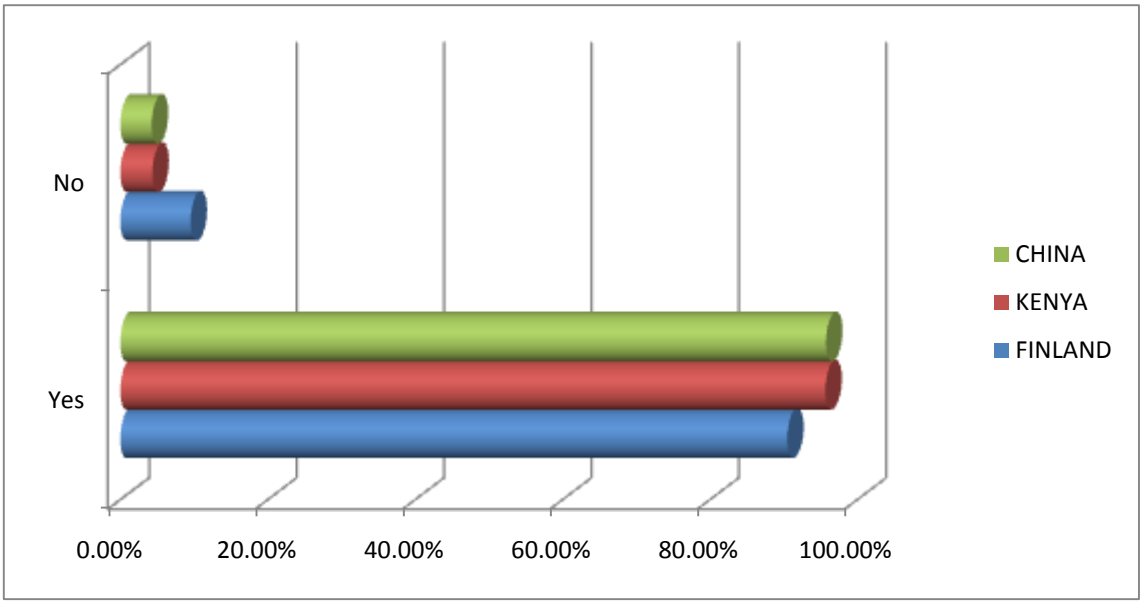
Graph 7 is concerning how much did elderly received guidance on exercise from nurses. It is quite prominent that in China, no elderly said they get quite much guidance from nurses while 21% and 36% elderly in Finland and Kenya said so. High percentage of elderly in three countries (33% in Finland, 28% in Kenya, 48% in China) thought that they got little guidance from nurses. High percentage (33%) of elderly in Finland thought they got no guidance from nurses while only 4% elderly in Kenya and China thought so. The reason is probably that Finnish

Graph 8. Different Types of Guidance from Nurses



Graph 8 shows that only a few elderly (14% in Finland, 6% in Kenya, 2% on China) said they got no information from nurses. High percentage of elderly (36% in Finland, 34% in Kenya, 71% in China) said they were motivated and encouraged to do exercise by nurses. Second highest percentage is the information about effects of exercise (27% in Finland, 26% in Kenya, 60% in China) and safety of exercise from nurse (36% in Finland, 23% in Kenya, 21% in China). Small percentage of elderly (9 % in Finland, 4% in Kenya, 15% in China) said they got information on how to prepare and exercise.

Graph 9. Degree of Satisfaction on Exercise Performed



Graph 9 shows that the majority of elderly (96% in China and Kenya, 90% in Finland) are satisfied with the exercise they do. Only small percentage of elderly said they are not satisfied with the exercise they do. In Kenya, two elderly responded not satisfied because they are sick and no exercise they have been doing. In China, two elderly were not satisfied with the exercise they get because of the pain they have so they can't persist with exercise. In Finland two elderly were not satisfied with the exercise they get because one of them responded that exercise makes him dizzy. The other responded not to be satisfied with the exercise she gets because when she wants to go out she needs help.

8 SUMMARY

The result of this research shows that the life expectancy in Finland is longer than that of China and Kenya. Elderly in China, Finland and Kenya are aware of the importance of exercise since majority of they do certain amount of exercise regularly. The distribution of exercise is universal among the elderly of the three countries. Most of them recognize the positive changes brought by exercises. Exercise as an approach to boost elderly health is universal. Many Finnish exercise for a shorter time because they are very old compared to Kenya and China.

Age should not be a limiting factor of exercise since there are different forms of exercises as adopted by the elderly among which walking is the most popular form of exercise since it can be conducted any time and everywhere. Apart from it, stretching exercise, gardening and shopping are also preferred by elderly in these three countries. But there are various forms of exercise performed by elderly due to cultural differences, for example, Chinese elderly also play Taichi and Mahjong and Kenya elderly skip slope while Finnish elderly do baking and handcraft.

It also showed the active role played by nurses and family members in facilitating exercises to the elderly. Family is the main source where elderly get information about exercise in these three countries while nurses are the second important source they get information from. But there is still inadequacy of exercise guidance from nurses. So it is very important for nurses to play the role as a promoter of exercise since exercise is a boost to elderly health promotion.

In general, most elderly are satisfied with the exercise they do but there is still some space for improvement.

9 DISCUSSION

In Finland, elderly are mainly taken care of in elderly homes by nurses who instruct on exercise with information and implementation while in Kenya, care is provided by relatives with awareness of importance on exercise as a way of promoting elderly well-being and they wish to spend time together in the house with the patients who are bed ridden or even with minor ailment. In China, the majority of elderly are nursed in their own homes by relatives who are not able to give proper and professional instructions on exercise. The family is the main place of elderly activity and the main partner of the elderly are family members. This will bring a wide range of effects on the quality of life of old people. Therefore, the qualities of family life activities directly affect the quality of life of the elderly.

Development by continuous education of professionals on exercise on elderly will update them with current issues. Learning in this case is ongoing responsibility to every care giver. It's evidenced by nurses aiming to move from competence to experts. They employ the expertise to their profession which is reflected in improved well-being of their clients.

Generally key area to be discussed in this topic is that can exercise reduce the incidence of falls in the elderly. And if so, what form of exercise is most effective. It has been noted with concern of the increasing number of falls in many facilities. Exercise was indicated to have potential to reduce falls in elderly. From previous experience, ward managers are getting concerned with the ways of implementing exercise.

Secondly, less attention is paid on exercise despite provision of knowledge from nurses and medical field. Still the discussion remains why its attention is so low as the living standard improves. The use of electronics, decreases physical activities, a large shift of less demanding work, increased technology which is evidenced by more

obesity reported, and chronic diseases, diabetes.

Also from the authors' previous experiences from Kenya, China and Finland, it has been shown that medical staff is reluctant to provide exercise apart form their usual routines of medication and nutrition consideration. They tend to value more of these than exercise. Some claimed that work load is too much and shortage of nurses has been contributing factor.

Life expectancy is also another issue to be noted as it has been showed in many studies that life expectancy can be lengthened by exercise. Apart from this, many other factors have influence on life expectancy such as gender differences, regional variations and economic circumstances.

Challenge concerning the conduction of this research was a good coordinating among three different cultural backgrounds. Research method was carefully considered to solve the research problems. Research was also demanding in terms of resources and time.

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ATTACHMENT

Attachment 1

The Unit of Health Care and Social Services

Meripuistokatu 26**,** Kemi, Finland 13.12.2012

Dear Sir/ Madam,

My name is Eila Heikkinen. I work as a senior lecturer in Kemi-Tornio University of Applied Sciences. I contact you because our nursing student Selly Arusei requests to make a survey among the elderly in your institution.

Our university of applied sciences is situated in the Northern Finland, in the town called Kemi. The school is founded 20 years ago. We educate, in the unit of health care, nurses, public health nurses and social workers. We have also International Nursing Program, which is given in English. In this program, we have students from many different countries, e.g. Kenya and China.

In the nursing program, one module is Bachelor's Thesis. All students have to do scientific study or research by using qualitative or quantitative method. For this purpose, the student has formulated a questionnaire

which could be used in collecting data. The topic of the study is “Exercise as a boost for the elderly health”. The questions are answered anonymously.

I wish that you are favorable to the request of our student.

Sincerely yours

Mrs Eila Heikkinen, senior lecturer

GSM +358400695 908, E-mail: eila.heikkinen(at)tokem.fi

Attachment 2

Kemi-Tornion ammattikorkeakoulu
University of Applied Sciences

The Unit of Health Care and Social Services

Meripuistokatu 26**,** Kemi, Finland 13.12.2012

Dear Sir/ Madam,

My name is Eila Heikkinen. I work as a senior lecturer in Kemi-Tornio University of Applied Sciences. I contact you because our nursing student Robert Kipkeu requests to make a survey among the elderly in your institution.

Our university of applied sciences is situated in the Northern Finland, in the town called Kemi. The school is founded 20 years ago. We educate, in the unit of health care, nurses, public health nurses and social workers. We have also International Nursing Program, which is given in English. In this program, we have students from many different countries, e.g. Kenya and China.

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Attachment 3

Kemi-Tornion ammattikorkeakoulu
University of Applied Sciences

The Unit of Health Care and Social Services

Meripuistokatu 26**,** Kemi, Finland 13.12.2012

Dear Sir/ Madam,

My name is Eila Heikkinen. I work as a senior lecturer in Kemi-Tornio University of Applied Sciences. I contact you because our nursing student He Wei requests to make a survey among the elderly in your institution.

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I wish that you are favorable to the request of our student.

Sincerely yours

Mrs Eila Heikkinen, senior lecturer

GSM +358400695 908, E-mail: eila.heikkinen(at)tokem.fi

Attachment 4

Please, give your opinions to the following questions.

Choose the right alternative/ alternatives

1. What is your age?

☐ 60-70 years ☐ 70-80 years

☐ 80-90 years ☐ 90-100 years

2. What is your gender?

☐ male ☐ female

3. What is your level of education?

☐ no education ☐ primary level

☐ high school ☐ higher education

4. How often do you exercise?

☐ daily ☐ 1-2 times/ week

☐ 3-4 times/ week ☐ not at all

5. How long do you usually participate in exercise?

☐ less than 10 mins ☐ 20-30 mins

☐ 30-40 mins ☐ over 40 mins

6. When do you usually exercise?

☐ in the morning ☐ in the afternoon

☐ in the evening ☐ at night

7.What kind of exercise do you do?

☐ walking ☐ gym/ fitness room exercise

☐ stretching exercise ☐ strengthening exercise

☐ guided group gymnastics ☐ bicycling

☐ Gardening ☐ Shopping

☐ Cleaning

☐ Other, what?_____

8.Where do you get information about exercise?

☐ book ☐ social media

☐ nurses ☐ family

☐ Other, what?_____

9. What motivates you to do exercise?

☐ illness ☐ to keep fit ☐ habit

☐ Other, what?_____

10. If you are not exercising, what are the reasons?

☐ no motivation ☐ not fit enough

☐ lack of safety ☐ lack of instructions

☐ Other, what?_____

11. Do you feel safe when you are exercising?

☐ safe ☐ not safe ☐ cannot say

12. Why do you feel not safe when exercising?

☐ fear of pain ☐ too much physical stress

☐ fear of injury and accident ☐ previous trauma

☐ Other, what?_____

13. How helpful is exercise for your health?

☐ significantly helpful ☐ helpful

☐ not helpful ☐ cannot say

14. What kind of effects does exercise give to your health?

☐ improves physical condition ☐ improves mood

☐ improves independence ☐ helps to relax and revitalize

☐ no benefits

☐ Other, what?_____

15. To what extent have you changed your exercise habit compared with when you are young?

☐ improved ☐ deteriorated

☐ not changed ☐ changed the type

16. Do you think you can manage to exercise by yourself?

☐ can manage independently

☐ can manage with assistance

☐ can not manage

17. How much guidance have you received on exercise from nurses?

☐ quite much ☐ much

☐ little ☐ not at all

18. What kind of guidance have you got from nurses?

☐ information about effects of exercise

☐ information about types of exercise

☐ information about safety of exercise

☐ information on how to prepare and exercise

☐ motivation and encouragement to do exercise

☐ no information from nurses

19. What wishes concerning exercise do you have to nurses?

☐ more guidance and information

☐ more support and encouragement

☐ satisfied with nurses

☐ Other, what?_____

20. In general, are you satisfied with the exercise you get?

☐ yes

☐ Other, what?_____

Thank you for your answers!

Attachment 5

Ole hyvä ja kerro mielipiteesi seuraavista asioista

Valitse oikea vaihtoehto/vaihtoehdot

1. Minkä ikäinen olet?

☐ 60-70 vuotta ☐ 70-80 vuotta

☐ 80-90 vuotta ☐ 90-100 vuotta

2. Sukupuoli?

☐ mies ☐ nainen

3. Mikä on koulutuksesi?

☐ ei koulutusta ☐ kansakoulu ☐ peruskoulu

☐ lukio ☐ korkeampi koulutus

4. Kuinka usein harrastat liikuntaa?

☐ päivittäin ☐ 1-2 kertaa viikossa

☐ 3-4 kertaa viikossa ☐ en lainkaan

5. Kuinka kauan yleensä kuntoilet?

☐ vähemmän kuin 10 min ☐ 20-30 min

☐ 30-40 min ☐ over 40 min

6. Milloin tavallisesti kuntoilet?

☐ aamuisin ☐ päivällä

☐ iltapäivällä ☐ illalla

7.Millaista kuntoilua harrastat?

☐ kävelyä ☐ kuntosalilla käyntiä

☐ venyttelyä ☐ voimaharjoittelua

☐ ohjattua ryhmäliikuntaa ☐ pyöräilyä

☐ puutarhanhoitoa ☐ ostoksilla käyntiä

☐ siivousta

☐ muuta mitä

8.Mistä saat tietoa eri kuntoilumuodoista?

☐ kirjoista ☐ *sosiaalista mediasta*

☐ hoitajilta ☐ perheeltä

☐ Mistä muualta?_____

9. Mikä motivoi sinua kuntoilemaan?

☐ sairaus ☐ kunnon ylläpitäminen ☐ tapa

☐ Muu mikä?_____

10. Jos et kuntoile niin, mitkä ovat syyt?

☐ ei motivaatiota ☐ ei ole tarpeeksi kuntoa

☐ turvallisuuden puute ☐ ohjeiden puute

☐ Muu, mikä?_____

11. Tunnetko voivasi kuntoilla turvallisesti?

☐ kyllä ☐ en ☐ en osaa sanoa

12. Miksi et tunne voivasi kuntoilla turvallisesti?

☐ kivun pelko ☐ liikaa fyysistä stressiä

☐ tapaturman ja vahingon pelko ☐ edeltävä trauma

☐ Muu ,mikä?_____

13. Kuinka hyödyllistä kuntoilu on terveydellesi?

☐ hyödyttää merkittävästi ☐ hyödyllinen

☐ ei auta ☐ en osaa sanoa

14. Millaisia vaikutuksia kuntoilulla on terveydellesi?

☐ parantaa fyysistä kuntoa ☐ parantaa mielialaa

☐ vahvistaa riippumattomuuutta ☐ auttaa rentoutumaan ja elvyttää

☐ ei sanottavaa hyötyä

☐ Muu, mikä?_____

15 Missä määrin olet muuttanut kuntoilua nuoruuteen verrattuna?

☐ lisännyt ☐ vähentänyt

☐ en ole muuttanut ☐ vaihtanut tyyppiä

16. Luuletko voivasi kuntoilla itsenäisesti?

☐ voin harjoitella itsenäisesti

☐ voin harjoitella saadessani apua

☐ en voi

17. Kuinka paljon olet saanut apua kuntoiluun hoitajilta?

☐ melko paljon ☐ paljon

☐ vähän ☐ en lainkaan

18. Millaisia ohjeita olet saanut hoitajilta?

☐ tietoa kuntoilun vaikutuksista

☐ tietoa eri kuntoilumuodoista

☐ tietoa turvallisista kuntoilumuodoista

☐ tietoa miten valmistautua ja kuntoilla oikein

☐ motivaatiota ja kannustusta kuntoiluun

☐ ei tietoa kuntoilusta

19. Mitä toivotte hoitajilta?

☐ enemmän opastusta ja tietoa

☐ enemmän tukea ja kannustusta

☐ olen tyytyväinen hoitajiin

☐ Muu, mikä?_____

20. Oletko pääasiassa tyytyväinen kuntoiluusi?

☐ kyllä

☐ Muu, mikät?_____

Kiitos vastauksistasi!

Attachment 6

请就以下问题给出自己的回答

选择您认为正确的答案

1. 您的年龄是多少？

☐ 六十到七十岁 ☐ 七十到八十岁 ☐ 八十到九十岁 ☐ 九十到一百岁

2. 您的性别？

☐ 男 ☐ 女

3. 您的教育程度是?

☐ 没有上过学 ☐ 小学 ☐ 中学 ☐ 高等教育

4. 您通常多久运动一次？

☐ 每天 ☐ 一到两次每周 ☐ 三到四次每周 ☐ 不锻炼

5. 您通常一次运动多久？

☐ 少于十分钟 ☐ 二十至三十分钟 ☐ 三十至四十分钟 ☐ 超过四十分钟

6. 您通常什么时候运动？

☐ 早上 ☐ 中午 ☐ 下午 ☐ 晚上

7. 您通常做哪种运动?

☐ 步行 ☐ 健身房锻炼 ☐ 伸展练习

☐ 力量练习 ☐ 有人指导的群众体操 ☐ 骑自行车

☐ 园艺 ☐ 逛街购物 ☐ 打扫

☐ 其他?_____

8. 您通常从哪里获取运动知识?

☐ 书籍 ☐ 社会媒体 ☐ 医务人员 ☐ 家庭

☐ 其他?_____

9. 你运动的动机是?

☐ 减轻疾病 ☐ 保持健康 ☐ 习惯

☐ 其他?_____

10. 如果你不运动，原因是什么呢?

☐ 没有动力 ☐ 不够健康 ☐ 缺乏安全感 ☐ 缺乏指导

☐ 其他?_____

11. 你运动的时候感觉安全吗?

☐ 安全 ☐ 不安全 ☐ 不知道

12. 你运动的时候为什么觉得不安全呢?

☐ 害怕疼痛 ☐ 太多的身体压力

☐ 害怕受伤或者意外 ☐ 先前的创伤

☐ 其他?_____

13.您认为运动对您的健康有帮助吗?

☐ 非常有帮助 ☐ 一般有帮助 ☐ 没有帮助 ☐ 不知道

14. 运动给您的身体带来了哪些影响?

☐ 提高了身体状况 ☐ 让心情变好 ☐ 提高了独立性

☐ 帮助放松和恢复精力 ☐ 没有帮助

☐ 其他?_____

15. 和年轻时候相比，您的运动习惯有了怎样的变化?

☐变好 ☐变差 ☐没有改变 ☐改变了方式

16. 您认为你可以独立地进行运动吗?

☐ 可以独立进行 ☐ 在帮助下可以进行 ☐ 不能进行

17. 您从护士那里得到了多少运动指导?

☐ 非常多 ☐ 一般多 ☐ 很少 ☐ 一点也没有

18.您从护士那里得到了什么样的运动指导?

☐关于运动效果的信息 ☐关于运动种类的信息 ☐关于运动安全性的信息

☐关于怎样运动以及运动前准备的信息 ☐对运动的鼓励和倡导信息 ☐没有任何信息

19. 您对护士在运动方面有什么期望?

☐ 更多的信息和指导 ☐ 更多的支持和鼓励 ☐ 对护士很满意

☐ 其他?_____

20. 总体来说， 你对你所接受的运动是否满意?

☐ 满意

☐ 不满意，为什么? _____

非常感谢您的回答!

Attachment 7

KEMI-TORNION AMMATTIKORKEAKOULU
Sosiaali- ja terveysala

OPINNÄYTETYÖN AINEISTON KERUUN LUPA-ANOMUS

1. Luvan anoja	Kemi-Tornion ammattikorkeakoulun terveysalan koulutusyksikön opiskelijat HE WEI, ROBERT KIPKEU, SELLY ARUSEI
2. Opinnäytetyön aihe	EXERCISE AS A BOOST FOR THE HEALTH PROMOTION OF THE ELDERLY
3. Opinnäytetyön tarkoitus	TO EXPLORE WAYS IN WHICH EXERCISE FUNCTION AS A BOOST TO ELDERLY HEALTH PROMOTION.
4. Opinnäytetyössä tarvittava aineisto	- INTENET MATERIAL/BOOKS - LIBRARY BOOKS - PERSONAL OPINIONS
5. Aineiston keruumenetelmät	THROUGH QUANTITATIVE MENTOD WHERE QUESTIONAIRES WERE PREPARED AND DISTRIBUTED TO ELDERS FROM CHINA, FINLAND & KENYA.
6. Aineiston keruun suunniteltu ajankohta	20/12/2012 — 15/3/2013
7. Opinnäytetyön arvioitu valmistumisaika	10.5.2013
8. Opinnäytetyön suunnitelma on hyväksytty	KEMI-TORNION AMMATTIKORKEAKOULU, terveysalan koulutusyksikkö 15 päivänä joulu kuuta 2012
9. Allekirjoitukset	Opinnäytetyön ohjaaja [signature] Opinnäytetyön tekijä/tekijät, osoite ja puhelinnumero

Lupa tutkimustyöhön

myönnetty hakemuksen mukaisena ☑
myönnetty korjauksin ☐
hakemus hylätty ☐

päiväys 15/12 2012

allekirjoitukset [signature]